REMARKS

In view of the following discussion, the Applicants submit that none of the claims now pending in the application is unpatentable under the provisions of 35 U.S.C. §103. Thus, the Applicants believe that all of these claims are now in allowable form.

I. REJECTION OF CLAIMS 1-5, 7-10, AND 21-28 UNDER 35 U.S.C. § 103
A. Claims 1, 22, and 24

Claims 1, 22, and 24 stand rejected under 35 U.S.C. §103(a) as being unpatentable over the Harmer et al. article ("Mobile Aware Multimedia Applications for UMTS: The ACTS *On The Move* Project," hereinafter "Harmer") in view of the Schuetze et al. patent (United States Patent No. 6,922,699, issued July 26, 2005, hereinafter "Schuetze"). In response, the Applicants have amended claim 24 in order to more clearly recite aspects of the present invention. Claims 1 and 22 have been cancelled without prejudice.

Primarily, the Applicants respectfully submit that Harmer and Schuetze fail, singly or in any permissible combination, to disclose or suggest clustering network nodes by a nested method <u>in which one or more of said plurality of nodes are initially clustered based on a sub-set of attributes and then re-clustered by iteratively considering additional attributes</u>, as recited by Applicants' independent claim 4.

The Examiner acknowledges, in fact, that Harmer and Schuetze (in combination with a third reference) "do not explicitly teach wherein the method further includes the step wherein one or more of said plurality of nodes clustering is performed by a nested method in which network nodes are initially clustered based on a sub-set of attributes and then re-clustered by iteratively considering additional attributes" (Final Office Action, Page 18). As such, Harmer in view of Schuetze fails to disclose or suggest every feature recited by Applicants' independent claim 4. Specifically, the Applicants' independent claim 4 positively recites:

4.   A method of clustering a multi-type vector space in accordance with a plurality of attributes including network attributes and application attributes, the method comprising:
     obtaining the network attributes from a network having a plurality of nodes;
     obtaining the application attributes of an application;
     obtaining user's communication interest as represented by at least one of: a user request for a content update or a user subscription to a specific data item or to a set of proximal data sources;
     forming a plurality of feature vectors, one for each of the plurality of nodes, where each single one of the plurality of feature vectors is based on the user's communication interest, network attributes, and application attributes, such that each single one of the plurality of feature vectors comprises features extracted from a plurality of different types of sources; and
     clustering the plurality of nodes based on the plurality of feature vectors, wherein the clustering is performed by a nested method in which one or more of said plurality of nodes are initially clustered based on a sub-set of the plurality of attributes and then re-clustered by iteratively considering additional ones of the plurality of attributes. (Emphasis added)

Since Harmer in view of Schuetze fails to disclose or suggest clustering network nodes by a nested method in which one or more of said plurality of nodes are initially clustered based on a sub-set of attributes and then re-clustered by iteratively considering additional attributes, the Applicants submit that independent claim 4 is not unpatentable over Harmer in view of Schuetze and is allowable.

Claim 24 depends from independent claim 4 and recites at least all of the same features recited in independent claim 4. As such, the Applicants submit that claim 24 is allowable for at least the same reasons that independent claim 4 is believed to be allowable.

In light of the above, the Applicants respectfully request that the rejection of claim 24 under 35 U.S.C. §103 be withdrawn.

B. Claims 2, 7, 9, and 26

Claims 2, 7, 9, and 26 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Harmer in view of the George et al. patent (United States Patent No. 6,944,645, issued September 13, 2005, hereinafter "George") and further in view of

Schuetze. In response, the Applicants have amended claims 7 and 9 in order to more clearly recite aspects of the present invention. Claims 2 and 26 have been cancelled without prejudice.

As discussed above, Harmer in view of Schuetze fails to disclose or suggest clustering network nodes by a nested method <u>in which one or more of said plurality of nodes are initially clustered based on a sub-set of attributes and then re-clustered by iteratively considering additional attributes</u>, as recited by Applicants' independent claim 4. George fails to bridge this gap in the teachings of Harmer and Schuetze. As such, the Applicants submit that independent claim 4 is not unpatentable over Harmer in view of George and further in view of Schuetze and is allowable.

Claims 7 and 9 depend from independent claim 4 and recite at least all of the same features recited in independent claim 4. As such, and for at least the reasons stated above with respect to independent claim 4, the Applicants respectfully submit that claims 7 and 9 are also not unpatentable over Harmer in view of George and further in view of Schuetze.

In light of the above, the Applicants respectfully request that the rejection of claims 7 and 9 under 35 U.S.C. §103 be withdrawn.

C. Claim 8

Claim 8 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Harmer in view of George and Schuetze and further in view of the Grimm et al. patent (United States Patent No. 5,828,843, issued October 27, 1998, hereinafter "Grimm"). In response, the Applicants have amended claim 8 in order to more clearly recite aspects of the present invention.

As discussed above, Harmer in view of George and further in view of Schuetze fails to disclose or suggest clustering network nodes by a nested method <u>in which one or more of said plurality of nodes are initially clustered based on a sub-set of attributes and then re-clustered by iteratively considering additional attributes</u>, as recited by Applicants' independent claim 4. Grimm fails to bridge this gap in the teachings of

Harmer, George, and Schuetze. As such, the Applicants respectfully submit that independent claim 4 is also not unpatentable over Harmer in view of George and Schuetze and further in view of Grimm.

Claim 8 depends from independent claim 4 and recites at least all of the features recited in independent claim 4. As such, and for at least the reasons stated above with respect to independent claim 4, the Applicants respectfully submit that claim 8 is also not unpatentable over Harmer in view of George and Schuetze and further in view of Grimm and is allowable.

In light of the above, the Applicants respectfully request that the rejection of claim 8 under 35 U.S.C. §103 be withdrawn.

D. Claims 3-4 and 27-28

Claims 3-4 and 27-28 stand rejected under 35 U.S.C. §103(a) as being unpatentable Harmer in view of George and Schuetze and further in view of the Johnson patent (United States Patent No. 6,078,946, issued June 20, 2000, hereinafter "Johnson"). In response, the Applicants have amended independent claims 4 and 28 in order to more clearly recite aspects of the present invention. Claims 3 and 27 have been cancelled without prejudice.

As discussed above, Harmer in view of George and further in view of Schuetze fails to disclose or suggest clustering network nodes by a nested method <u>in which one or more of said plurality of nodes are initially clustered based on a sub-set of attributes and then re-clustered by iteratively considering additional attributes</u>, as recited by Applicants' independent claims 4 and 28.

Johnson fails to bridge this gap in the teachings of Harmer, George, and Schuetze. By contrast, Johnson at best discloses that classes used in object-oriented computing may include sub-classes having unique attributes. Although Johnson states that these sub-classes are "nested" within their classes (Johnson, column 10, lines 22-24), this does not mean that Johnson discloses clustering network nodes based on a nested method. At best, this statement merely refers to the fact that the sub-classes

are <u>contained within their larger classes</u>. It suggests nothing as to how one would go about clustering network nodes based on this information. Certainly this statement does not suggest that such clustering involves <u>initially clustering the nodes based on a</u> <u>sub-set of attributes and then re-clustering the nodes by iteratively considering</u> <u>additional attributes</u>. In fact, Johnson suggests nothing about <u>re-clustering</u> nodes, or that the re-clustering comprises an <u>iterative process</u>. As such, the Applicants respectfully submit that independent claims 4 and 28 are also not unpatentable over Harmer in view of George and Schuetze and further in view of Johnson.

In light of the above, the Applicants respectfully request that the rejection of claims 4 and 28 under 35 U.S.C. §103 be withdrawn.

E. Claim 5

Claim 5 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Harmer in view of George and Schuetze and further in view of the Solotorevsky et al. patent application (United States Patent Application Publication No. 2005/0010571, published January 13, 2005, hereinafter "Solotorevsky"). In response, the Applicants have amended independent claim 5 in order to more clearly recite aspects of the present invention.

As discussed above, Harmer in view of George and further in view of Schuetze fails to disclose or suggest clustering network nodes by a nested method <u>in which one</u> <u>or more of said plurality of nodes are initially clustered based on a sub-set of attributes</u> <u>and then re-clustered by iteratively considering additional attributes</u>, as recited by Applicants' independent claim 4. Solotorevsky fails to bridge this gap in the teachings of Harmer, George, and Schuetze. As such, the Applicants respectfully submit that independent claim 4 is also not unpatentable over Harmer in view of George and Schuetze and further in view of Solotorevsky.

Claim 5 depends from independent claim 4 and recites at least all of the features recited in independent claim 4. As such, and for at least the reasons stated above with respect to independent claim 4, the Applicants respectfully submit that claim 5 is also

not unpatentable over Harmer in view of George and Schuetze and further in view of Solotorevsky and is allowable.

In light of the above, the Applicants respectfully request that the rejection of claim 5 under 35 U.S.C. §103 be withdrawn.

F. Claim 10

Claim 10 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Harmer in view of George and Schuetze and further in view of the Tang et al. patent application (United States Patent Application Publication No. 2005/0076137, published April 7, 2005, hereinafter "Tang"). In response, the Applicants have amended claim 10 in order to more clearly recite aspects of the present invention.

As discussed above, Harmer in view of George and further in view of Schuetze fails to disclose or suggest clustering network nodes by a nested method <u>in which one or more of said plurality of nodes are initially clustered based on a sub-set of attributes and then re-clustered by iteratively considering additional attributes</u>, as recited by Applicants' independent claim 4. Tang fails to bridge this gap in the teachings of Harmer, George, and Schuetze. As such, the Applicants respectfully submit that independent claim 4 is also not unpatentable over Harmer in view of George and Schuetze and further in view of Tang.

Claim 10 depends from independent claim 4 and recites at least all of the features recited in independent claim 4. As such, and for at least the reasons stated above with respect to independent claim 4, the Applicants respectfully submit that claim 10 is also not unpatentable over Harmer in view of George and Schuetze and further in view of Tang and is allowable.

In light of the above, the Applicants respectfully request that the rejection of claim 10 under 35 U.S.C. §103 be withdrawn.

G. Claim 25

Claim 25 stands rejected under 35 U.S.C. §103(a) as being unpatentable over

Harmer in view of Schuetze and further in view of the Posey, Jr. patent n (United States Patent No. 7,184,444, issued February 27, 2007, hereinafter "Posey"). In response, the Applicants have amended claim 25 in order to more clearly recite aspects of the present invention.

As discussed above, Harmer in view of Schuetze fails to disclose or suggest clustering network nodes by a nested method in which one or more of said plurality of nodes are initially clustered based on a sub-set of attributes and then re-clustered by iteratively considering additional attributes, as recited by Applicants' independent claim 4. Posey fails to bridge this gap in the teachings of Harmer and Schuetze. As such, the Applicants respectfully submit that independent claim 4 is also not unpatentable over Harmer in view of Schuetze and further in view of Posey.

Claim 25 depends from independent claim 4 and recites at least all of the features recited in independent claim 4. As such, and for at least the reasons stated above with respect to independent claim 4, the Applicants respectfully submit that claim 25 is also not unpatentable over Harmer in view of Schuetze and further in view of Posey and is allowable.

In light of the above, the Applicants respectfully request that the rejection of claim 25 under 35 U.S.C. §103 be withdrawn.

H. Claim 23

Claim 23 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Harmer in view of Schuetze and further in view of Grimm. In response, the Applicants have cancelled claim 23 without prejudice. Accordingly, the Applicants submit that the rejection of claim 23 is moot.

I. Claim 21

Claim 21 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Harmer in view of Schuetze and further in view of Solotorevsky. In response, the Applicants have cancelled claim 21 without prejudice. Accordingly, the Applicants

submit that the rejection of claim 21 is moot.

II. CONCLUSION

Thus, the Applicants submit that all of the presented claims fully satisfy the requirements of 35 U.S.C. §103. Consequently, the Applicants believe that all of the presented claims are presently in condition for allowance. Accordingly, both reconsideration of this application and its swift passage to issue are earnestly solicited.

If, however, the Examiner believes that there are any unresolved issues, it is requested that the Examiner telephone Kin-Wah Tong, Esq. at (732) 542-2280, x130 so that appropriate arrangements can be made for resolving such issues as expeditiously as possible.

Respectfully submitted,

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